

DISCUSSION OF THE AMENDMENTS

Claims 1, 7, 9, 10, 12, 13 and 16 are currently amended.

Claims 2-6, 8, 11, 14, 15 and 17 were previously presented.

Upon entry of the amendments, claims 1-17 will be active.

The amendments to claims 1 and 13 are supported on page 2, lines 10-35 of the specification.

The amendments to claims 7, 12 and 16 are supported on page 12, lines 18-23 of the specification.

The amendment to claim 9 is supported by claim 9 as previously presented.

The amendment to claim 10 is supported by claim 3 as originally presented.

No new matter has been added.

REMARKS

At the outset, Applicants would like to thank the Examiner Shterengarts for the careful and thorough examination of the application.

The Examiner has rejected claims 1-17 under 35 U.S.C. §112, first paragraph, claims 1-3 and 6-9 under U.S.C. §112, second paragraph, claims 1-3, 5, 13-17 under U.S.C. §112, second paragraph, claims 8 and 17 under U.S.C. §112, second paragraph and claim 9 under U.S.C. §112, second paragraph. In addition, the Examiner rejected claims 1-17 under U.S.C. §103(a) over the combination of Mok (U.S. Patent No. 3,846,474), Rapoport (U.S. Patent No. 4,714,773), McGill (U.S. Patent No. 4,382,038) and Fernald et al. (U.S. Patent No. 6,093,285).

Applicants submit that the application has been amended such that the claims satisfy both the 35 U.S.C. §112, first and second paragraphs.

In addition, Applicants submit that the combination of the cited references do not teach or suggest all the claimed process, and therefore, the claims would not have been rendered unpatentable under 35 U.S.C. §103(a) over the cited references.

The disclosure involves a process for preparing 3-pentenitrile. The process includes contacting the reactants 1,3-butadiene, hydrogen cyanide or both 1,3-butadiene and hydrogen cyanide with at least one microporous solid and releasing the reactants before hydrocyanating the 1,3-butadiene with hydrogen cyanide over a nickel (0) catalyst. The microporous solid is then regenerated by heat in an atmosphere of noble gases, air and/or nitrogen.

As Applicants note on page 2, lines 5-10 of the specification, contacting the reactants with the microporous solid increases the lifetime of the catalyst. This effect was also demonstrated in the examples.

Mok describes a process for hydrocyanation of olefinic compounds. In the process, a zerovalent nickel compound is contacted (regenerated) with an activated crystalline zeolite molecular sieve. After regeneration, the zerovalent nickel compound is then returned to the

hydrocyanation reaction. The Examiner suggests that these steps in Mok are the same as contacting 1,3-butadiene and/or hydrogen cyanide (reactants) with at least one microporous solid, releasing these reactants from the microporous solid and regenerating the microporous solid. Applicants respectfully disagree. Mok regenerates a catalyst and the disclosed process regenerates the microporous solid that has been contacted with the reactants. Accordingly, the recited steps in the claimed process are distinct from the process described in Mok. Therefore, Mok does not teach or suggest all the recitations of the claimed method. Applicants emphasize that the regeneration step pertains to the microporous solid and this regeneration step does not involve the catalyst. As such, the disclosed process is independent of the catalyst used and is not limited by the type of catalyst.

Rapoport describes hydrocyanation of butadiene using a mixed ligand zerovalent nickel catalyst. McGill describes a process for the production of dinitriles. Fernald describes a process for the purification of 1,3-butadiene. However, like Mok none of these references teaches or suggests contacting reactants with a microporous solid, releasing the reactants from the microporous solid and regenerating the microporous solid. Therefore, the combination of Mok, Rapoport, McGill and Fernald do not teach or suggest all the recitations of the claimed method. Accordingly, the claimed process would not have been obvious over the combination of the cited references and Applicants respectfully request that the Examiner withdraw the rejection of claims 1-17 under 35 U.S.C. §103(a) over the combination of Mok, Rapoport, McGill and Fernald.

Applicants submit that the claims satisfy the requirements of the 35 U.S.C. §112, first paragraph. Specifically, Applicants note that the specification discloses and exemplifies numerous nickel (0) catalyst systems. In addition, as noted above, the claimed process is independent of the catalyst used. Therefore, the specification provides an adequate disclosure of how to make and used the claimed process. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claims 1-17 under 35 U.S.C. §112, first paragraph.

Applicants submit that the amendments to the claims obviate the rejection of the claims under 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully request that the Examiner withdraw these rejections.

In view of the above remarks, Applicant believes the pending application is in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00310-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,
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